In rural Midwest, a telehealth community thrives

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Jody Clements was bowling with his kids—and rather poorly, he recalls—when he felt sudden pain in his left arm and noticed it was “quite warm and quite swollen.”

“I’ve had some medical training,” says Clements, the 47-year-old deputy chief of the Marshfield (Wisconsin) Fire and Rescue Department. “So, I’m like ‘Yeah, that’s an infection and it’s not going away.’”

His diagnosis was confirmed by a physician at an urgent care center and it was classified as cellulitis that required inpatient intravenous antibiotic treatment.

But then Clements was presented with another option, the Home Recovery Care program the Marshfield Clinic Health System operates with Nashville-based Contessa Health.

For Clements, a single dad looking after a 13-year-old son and 11-year-old daughter, the choice was easy. Being treated at home allowed him to keep cooking supper for his kids and it kept him out of the hospital.

The Home Recovery program involves home visits by a nurse, communication with a doctor via a computer tablet, answering a daily questionnaire, and supplying daily readings of weight, blood pressure and temperature over a 30-day period.

Marshfield launched Home Recovery Care in September 2016 and about 13 patients used the service that year. That number grew to 250 patients in 2018.

Home Recovery Care started with providing in-home acute-care services for six medical conditions, and that list grew to more than 150 conditions. Quality measurements have been impressive with readmissions down 41 percent and patient satisfaction up 22 percent.

What Clements liked was that he didn’t experience the typical sleep deprivation that occurs in a busy hospital. He also thinks there were fewer things competing for his physician’s and nurses’ attention.

“I think I reacted to the antibiotics and everything better and quicker for the mere fact I was able to sleep,” he says. “And the doctor and nurse interactions were wonderful. I felt like there were no distractions and I was the focus of everything they had to do.”

Remote locations led to remote care

The Home Recovery program is one of the latest uses of telemedicine technology utilized by the Marshfield system. A pioneer in this field, Marshfield began using telemedicine for radiology in 1997 with help from grants from the federal Office of Rural Health Policy and Office for the Advancement of Telehealth. Most health systems were not actively using telemedicine until a decade later.

Marshfield has also been a pioneer in getting reimbursed for telemedicine services, and was the first health care organization in Wisconsin whose telemedicine program was approved for Medicaid reimbursement, according to a Commonwealth Fund case study on Marshfield published in 2009.

“Marshfield Clinic has been a leader in promoting the adoption of telehealth and in developing related business strategies and financial models to make the service viable,” the report said. It was also noted that Marshfield’s telemedicine program reflects “a successful focus on the human relationship in a technologically enhanced patient encounter.”

Marshfield Clinic Executive Director and Chief Clinical Strategy Officer Narayana Murali, MD, agrees with that assessment.

Marshfield’s service area includes about 1.1 million patients spread across a 30,000-square-mile area. Its 60 locations are mostly located in small towns of 5,000 or fewer people.

“It becomes very difficult to cover that range and have a provider available at all sites at all times,” Dr. Murali said. “It’s prohibitively expensive.”

Providing the entire enchilada

Telemedicine provides a practical solution to the challenges created by the health system’s massive footprint across rural Wisconsin and the state’s sometimes brutal winter weather.

The system’s main hub, the Marshfield Medical Center in Marshfield, Wisconsin, services about 18,000 people in its immediate area, but more than 250,000 in its entire catchment area. It is not unusual for patients to drive 30 to 60 miles to receive care, while some may drive 250 to 500 miles.

At one point this winter, temperatures dipped to 55 degrees below zero, Dr. Murali says, making long drives particularly dangerous for Medicare beneficiaries who make up 27 percent of Marshfield’s patient population.

“You’re not expecting your older and sicker patients to travel when they’re ill in weather that is not supportive or conducive to driving,” he says, adding that just a few minutes of exposure to -55 temperatures can cause frostbite.

The answer to this problem is telemedicine.

The Marshfield system, which has its own health plan and its own electronic health record, includes physicians in 86 specialties with 46 of those offering telemedicine services. And, in 2018, they provided more than:

- 10,000 telemedicine visits—including physician consults.
- 55,000 telepharmacy encounters.
- Close to 2,500 instances where encounters were facilitated by offsite interpreters.
- 7,000 uses of the Care My Way app in which patients with urgent-care needs can speak with a nurse practitioner who will either instruct them on how to manage their condition or transfer them to a virtual visit with a physician.

> “That covers the entire enchilada of care,” Dr. Murali explains. “It’s not restricted to a particular type of disease or level of acuity—but actually goes across the entire spectrum of care.”

Forging strong patient-physician bond

Dr. Murali came to Marshfield in 2006 after training as a nephrologist at the Mayo Clinic in Rochester, Minnesota, so he had been exposed to harsh winters of the upper Midwest.

When the time came for him to see patients remotely, he was excited about the opportunity.

“You need to live in Marshfield to understand,” Dr. Murali says, explaining how the system has remote facilities located two to three hours away.

He recalls how one of his first telemedicine patients in 2006 was a woman about 80 years old with a history of chronic kidney disease, and chronic conditions that included heart failure, diabetes and hypertension. She lived 200 miles away from the hub in Marshfield, and her family was not able to drive her that distance as often as was needed.

The patient, however, could get a ride to a nearby Marshfield outreach clinic with telemedicine capability.

“I was able to see her, examine her, listen to her heart and lungs and evaluate her lower extremity edema,” Dr. Murali remembers.

He was quickly able to get lab results, identify where she stood in terms of her kidney failure and was able to manage her therapy with IV medications. She had weekly visits “until she was better,” Dr. Murali says.

In the summer, she went to Marshfield for an office visit. Even though that was the first time they saw each other in person, Dr. Murali said a strong patient-physician relationship had already been forged.

“So, the bonding still happens and that’s something that has captured me in terms of what can be done with telehealth,” Dr. Murali says. “You can have complex, really sick patients who require urgent care and you can provide that care through technology—and that was 2006. If anything, the technology has improved significantly since then.”

Also, in 2006, patients had to go to a fixed location. Now, more in-home services are available and traveling long distances for care can be avoided. That said, Dr. Murali is philosophical about what this means to the patient-physician relationship and how human contact can make it stronger.

> “The context is important, it is not an all or nothing,” Dr. Murali explains. “There is an importance of human touch in terms of engagement.”

An in-person physical exam captures emotional factors, facial gestures, and reactions to touch that inform a physician to the level of pain a patient is feeling.

“There is an element of human touch and warmth that cannot be replaced,” he says. But telemedicine and human touch can work together along the entire continuum of care as part of a practical process.

Marshfield Chief Quality Officer Kori Krueger, MD, agrees.

Dr. Krueger says he likes to conduct his initial exam with a patient in person, and then subsequent visits can be done via telemedicine. The feedback he receives is that patients find telemedicine services very satisfying as travel time and hours away from work disappear.

Senior technophobe stereotype is wrong

Telemedicine is becoming normalized as word of its convenience spreads. This includes acceptance of technology by older patients. Dr. Krueger says the belief that seniors would hold a negative view of telemedicine is a false stereotype.

“We’ve broken that mold,” he says. “Just because someone is older doesn’t mean that they won’t embrace the technology. We’ve seen the opposite happen.”

Medicare patients are embracing technology to communicate with their grandchildren, so that is breaking barriers. Another factor is that word is spreading that telemedicine services are helping reduce hospital admissions and emergency department visits—particularly for Marshfield's patients with heart failure.

"People just get sick of being in the hospital," Dr. Krueger says.

One case that comes to mind was a patient hospitalized six times in one year. In the two years since joining Marshfield's telemedicine heart-failure program, the patient has been hospitalized just once.

"But it's not just one patient," Dr. Krueger says. "It's a reoccurring story."

While some rural health care systems are having difficulty recruiting or retaining physicians, Marshfield's early adoption of telemedicine and information technology has not gone unnoticed.

"It's a differentiator for us—especially as more and more doctors are coming out of training experiencing telehealth," Dr. Krueger says.

In terms of recruitment, Dr. Murali said the Home Recovery program has "triggered a lot of appetite" from hospitalist physicians.

One significant case where Marshfield's telemedicine program was a retention differentiator involved a child psychiatrist who, for family reasons, relocated to Utah. But Dr. Murali notes that this physician has not missed an appointment since moving away and is using telemedicine technology to provide care in Wisconsin from Utah.

In fact, he says only one out of the doctor's panel of 1,000 patients has opted out of telemedicine visits and is seeing a different psychiatrist for in-person visits.

"It was a huge win for patients who didn't want to lose their doctor," says Dr. Krueger. "It was a huge win for us because we didn't lose a valued specialist."

Both physicians predict that telemedicine and home care are the future and the need for more brick-and-mortar hub-and-spoke health care developments is fading.

"I see the world changing dramatically," Dr. Murali concludes. "You can't keep building more and more facilities to provide care. However, you can take that care to the home by leveraging this technology to help provide that care in a much more effective, efficient and value-based model."